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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/623,683  
Filing Date: July 21, 2003  
Appellant(s): NALLUR ET AL.

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Nallur et al.  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 02/17/2009 appealing from the Office action mailed 07/25/2009.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

5,828,370	Moeller et al.	10-1998
2003/0093800	Demas et al.	5-2003
7,027,713	Hallberg	4-2006

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-14 and 16-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Moeller et al., US 5,828,370.

For **Claim 1** Moeller teaches:

a method for providing a seamless transition between video play-back modes, (Column 4 Lines 47-51) comprising the steps of:

storing a video stream in memory (Col. 8 Lines 15-19);

receiving a request for a trick mode operation (Col. 12 Lines 1-7);

responsive to receiving the request for a trick mode operation (Col. 12

Lines 34-37), using information provided by a video decoder to identify a

first video picture to be decoded (Col. 3 Lines 9-13 and 21-23; and Fig. 5 Element 104 with Col. 9 Lines 31-35);  
decoding the first video picture (Col. 13 Lines 9-14); and  
outputting the first video picture to a display device (Col. 4 Lines 22-26).

For **Claim 2** as discussed in independent Claim 1, Moeller further teaches:

decoding and outputting a second video picture (Col. 13 Lines 21-22)  
wherein the first video picture and the second video picture are part of a group of pictures (Col. 11 Lines 34-36, note frames within a group of pictures compose the video stream).

For **Claim 3** as discussed in independent Claim 1, Moeller further teaches:

the information provided by the video decoder is a time value that is associated with the first video picture (Col. 9 Lines 31-35).

For **Claim 4** as discussed in independent Claim 1, Moeller further teaches:

the first video picture is adjacent in display order to another video picture that was being output to the display device when the request for the trick mode operation was received (Col. 7 Lines 24-33 and 38-43).

For **Claim 5** as discussed in independent Claim 1, Moeller further teaches:

the video stream is received from a headend (Fig. 1 Elem. 50 with Col. 6 Lines 18-23).

For **Claim 6** as discussed in independent Claim 1, Moeller further teaches:

the memory is non-volatile memory (Col. 8 Lines 42-48, note CD-ROM

and DVD disks are types of non-volatile memory).

For **Claim 7** as discussed in independent Claim 1, Moeller further teaches:

storing information related to the video stream in memory (Fig. 6 with Col. 4 Lines 34-41 and Col. 13 Lines 9-14).

For **Claim 8** as discussed in Claim 7, Moeller further teaches:

a demultiplexing system (Col. 1 Lines 22-23 and Col. 7 Lines 2-11) uses data embedded in the video stream to generate the information related to the video stream (Col. 9 Lines 31-36 and 52-59, and Fig. 6).

For **Claim 9** as discussed in Claim 7, Moeller further teaches:

the information related to the video stream comprises an index table (Fig. 6 with Col. 8 Lines 55-61).

For **Claim 10** as discussed in Claim 9, Moeller further teaches:

the index table identifies when each of a plurality of pictures within the video stream was stored in memory relative to a point in time (Col. 10 Lines 4-20 with Col. 11 Lines 24-31).

For **Claim 11** as discussed in Claim 10, Moeller further teaches:

the point in time corresponds to when recording of the video stream commences (Col. 10 Lines 4-20).

For **Claim 12** as discussed in Claim 9, Moeller further teaches:

the index table associates time values with respective video pictures within the video stream (Fig. 6 with Col. 49-58).

For **Claim 13** as discussed in Claim 9, Moeller further teaches:

the index table associates values with respective video pictures within the video stream (Fig. 6 with Col. 9 Lines 51-58), the values being indicative of a display order of the pictures within the video stream (Col. 6 Lines 52-54).

For **Claim 14** as discussed in Claim 9, Moeller further teaches:

the index table identifies storage locations of respective picture start codes (Fig. 6 with Col. 9 Lines 52-57, note the index tables map "normal play time" to a *file offset* which corresponds to an entry point into a video stream).

For **Claim 16** as discussed in Claim 9, Moeller further teaches:

the index table identifies storage locations of respective sequence headers (Col. 9 lines 31-37 and 52-57).

For **Claim 17** as discussed in independent Claim 1, Moeller further teaches:

the trick mode operation is one of a fast -play mode, a rewind mode, or a play mode (Col. 4 Lines 27-31 with Col. 11 Lines 1-4).

For **Claim 18** as discussed in independent Claim 1, Moeller further teaches:

the information provided by the video decoder identifies a normal playback time required to reach the first video picture from a beginning of the video stream (Col. 10 Lines 4-20).

For **Claim 19** as discussed in independent Claim 1, Moeller further teaches:

examining information in an index table (Col. 11 Lines 1-5);

examining annotation data corresponding to the video stream (Fig. 6 with Col. 9 Lines 31-37 and Col. 11 Lines 1-5); and

determining an entry point for fulfilling the trick mode request (Col. 11 Lines 1-5) responsive to the annotation data and the information in the index table (Fig. 6 with Col. 9 Lines 31-37).

For **Claim 20** as discussed in independent Claim 1, Moeller further teaches:

the method is implemented by a television set-top terminal (Col. 6 Lines 66-67 through Col. 7 Lines 1-7; with Col. 13 Lines 11-14), and wherein the display device is a television (Col. 6 Lines 56-65).

For **Claim 21** Moeller teaches:

A method comprising the steps of:

receiving a first video stream from a video server, the video stream comprising a plurality of video pictures (Col. 12 Lines 26-32);

decoding a current video picture from among the plurality of video pictures (Col. 7 Lines 4-11 with Col. 11 Lines 56-61, note displaying a streamed video through a set top box entails decoding a current video picture among a plurality of pictures);

receiving user input requesting a trick-mode operation (Col. 12 Lines 1-7);

transmitting a value associated with the current video picture and information identifying the trick mode operation to the video server (Col. 12 Lines 34-44); and

receiving from the video server a second video stream configured to enable a seamless transition to the trick-mode operation (Col. 3 Lines



34-51 with Col. 11 Lines 1-5).

For **Claim 22** as discussed in independent Claim 21, Moeller further teaches:

the value associated with the current video picture is a time value (Col. 13 Lines 8-11).

For **Claim 23** as discussed in Claim 22, Moeller further teaches:

the time value is relative to a beginning of the first video stream (Col. 13 Lines 5-11).

For **Claim 24** as discussed in independent Claim 21, Moeller further teaches:

the value associated with the current video picture enables identification of a storage location corresponding to the video picture (Col. 12 Lines 34-44, and Col. 12 Lines 64-67 through Col. 13 Line 1).

For **Claim 25** as discussed in independent Claim 21, Moeller further teaches:

the trick mode operation is one of a fast play mode, a rewind mode, or a play mode (Col. 13 Lines 23-31).

For **Claim 26** as discussed in independent Claim 21, Moeller further teaches:

the method is implemented by a television set-top terminal (Col. 6 Lines 56-67 through Col. 7 Lines 1-7, with Col. 13 Lines 11-14);

the display device is a television (Col. 6 Lines 58-60); and

the video server is located at a headend (Fig. 1 Elem. 50 with Col. 6 Lines 18-23).

For **Claim 27** as discussed in independent Claim 21, Moeller further teaches:

one of the video pictures in the second video stream is temporally

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adjacent to the current video picture (Col. 11 Lines 1-5, note Moeller teaches switching between equivalent positions within a trick play stream and a normal speed stream; thus a frame contained within a second stream will be displayed immediately following [temporally adjacent] the last frame displayed from a previous stream).

For **Claim 28** Moeller teaches:

a method for providing a seamless transition between video play-back modes (Col. 11 Lines 1-5), comprising the steps of:

decoding a current video picture (Col. 7 Lines 4-11 with Col. 9 Lines 21-29, note the set top box taught by Moeller decompresses and displays a video stream);

parsing a stuffing transport packet (STP) comprising a time value corresponding to the current video picture (Col. 3 Lines 4-11 with Col. 9 Lines 31-37); and

storing the time value in memory (Fig. 6 with Col. 9 Lines 52-57 with Col. 10 Lines 33-40 and Col. 13 Lines 9-14).

For **Claim 29** as discussed in independent Claim 28, Moeller further teaches:

using the time value to identify a location from which to begin a trick mode operation within a video presentation (Col. 11 Lines 1-5).

For **Claim 30** as discussed in Claim 29, Moeller further teaches:

the location corresponds to the current video picture (Col. 3 Lines 36-45 and Col. 4 Lines 46-51).

For **Claim 31** as discussed in Claim 29, Moeller further teaches:

the location corresponds to a video picture that is adjacent in display order to the current video picture (Col. 11 Lines 1-5 and Col. 13 Lines 23-30 note, the frame referenced following the jump trick mode operation is displayed immediately following the picture that was being displayed before the trick mode operation).

For **Claim 32** as discussed in independent Claim 28, Moeller further teaches:

the trick mode operation is one of a fast play mode, a rewind mode, or a play mode (Col. 4 Lines 27-31 with Col. 11 Lines 1-4).

For **Claim 33** as discussed in independent Claim 28, Moeller further teaches:

the time value is correlated to a normal play-time from a beginning of a video stream to the current video picture (Col. 10 Lines 4-15).

For **Claim 34** as discussed in independent Claim 28, Moeller further teaches:

the method is implemented by a video decoder (Fig. 4 Elem. 74 with Col 4 Lines 27-44, note the video server decodes video streams).

For **Claim 35** Moeller teaches:

a system for providing a seamless transition between video play-back modes (Col. 4 Lines 46-51), comprising:

a memory device for storing a video stream that includes a current video picture (Fig. 4 Elem. 90 with Col. 8 Lines 15-22);

a processor that is coupled to the memory device (Fig. 4 Elem. 80 with (Col. 8 Lines 10-15); and

a video decoder that is coupled to the processor (Fig. 4 Elem. 74 with Col. 8 Lines 18-23), and that is configured to:

decode the current video picture (Col. 8 Lines 41-52),  
parse a stuffing transport packet (STP) that includes a time value corresponding to the current video picture (Col. 3 Lines 8-13 with Col. 9 Lines 31-42), and  
store the time value (Fig. 6 with Col. 9 Lines 52-57 with Col. 10 Lines 33-40 and Col. 13 Lines 9-14).

For **Claim 36** as discussed in independent Claim 35, Moeller further teaches:

the processor is programmed to use the time value to identify a location from which to begin a trick mode operation within a video presentation (Col. 11 Lines 1-5).

For **Claim 37** as discussed in Claim 36, Moeller further teaches:

the location corresponds to the current video picture (Col. 3 Lines 36-45 and Col. 4 Lines 46-51).

For **Claim 38** as discussed in Claim 36, Moeller further teaches:

the location corresponds to a video picture that is adjacent in display order to the current video picture (Col. 11 Lines 1-5 and Col. 13 Lines 23-30 note, the frame referenced following the jump trick mode operation is displayed immediately following the picture that was being displayed before the trick mode operation).

For **Claim 39** as discussed in independent Claim 35, Moeller further teaches:

the trick mode operation is one of a fast play mode, a rewind mode, or a play mode (Col. 4 Lines 27-31 with Col. 11 Lines 1-4).

For **Claim 40** as discussed in independent Claim 35, Moeller further teaches:

the time value is correlated to a normal play-time from a beginning of the video stream to the current video picture (Col. 10 Lines 4-15).

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 42 is rejected under 35 U.S.C. 102(e) as being anticipated by Demas et al., US 2003/0093800.

Regarding claim 42, Demas discloses a set-top terminal comprising:

a processor (paragraph 56, 61, and 65);

memory storing program instructions thereon (Paragraph 65);

a storage device storing a compressed video stream (paragraph 57-58 and 61-62);

a decoder (200-figure 2) configured to:

decode a compressed picture, responsive to a playback request (paragraph 42-44);

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parse a stuffing transport packet (STP) to extract a time value (entry point) corresponding to the decoded picture (paragraph 69); and  
store the extracted time value corresponding to the decoded picture (paragraph 76-77);  
wherein the processor is configured by the program instructions to:  
receive a user request for trick mode play of a compressed video stream (paragraph 65);  
responsive the user request for trick mode play, receive the stored time value from the decoder (paragraph 72);  
identify, based on the received time value, a picture location (paragraph 69); and  
retrieve a picture from the stored compressed video stream using the identified picture location (paragraph 43, 47, and 114).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moeller et al. in view of Hallberg, US 7,027,713.

For **Claim 15** as discussed in Claim 9, Moeller further teaches:

the index table identifies picture locations (Fig. 6 with Col. 10 Lines 36-40)

Moeller does not expressly teach:

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the index table identifies picture types

Hallberg teaches:

an index table identifies picture types (Fig. 7 with Col. 8 Lines 26-33)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to identify picture types as taught by Hallberg, within the index table taught by Moeller. The motivation would have been to allow for the identification of intra frames, which provide an entry point into a video stream.

**(10) Response to Argument**

**I ) Rejection of claims 1-14 and 16-40**

**Independent claim 1**

(A) Appellants argue on pages 5, 6, and 7 of the brief that the Office Action fails to teach “using information provided by a video decoder to identify a first video picture to be decoded”.

First, appellants should note that the specification at page 3, lines 17-20 reads as follows “...the STT uses information provided by a video decoder within the STT to implement a trick mode beginning from a correct location within the compressed video stream to effect a seamless transition in the video presentation without significant temporal discontinuity.” The examiner contends that the video decoder inherently has to provide this information in order for the set top terminal to display the video since the video decoder is the device that decodes the compressed stream.

Second, appellants argue (page 6, 5<sup>th</sup> paragraph of the brief) that the final Office Action is inconsistent with the teachings of Moeller, but does not give any reasons, appellants only go on to quote Moeller. Next, the appellants argue that in Moeller the presentation timestamps are provided by the media server, this is true but this is true for every MPEG stream since the timestamps are within the stream. This is analogous to figure 1 of appellants' disclosure, since MPEG-2 streams are sent from the headend to the set top box (page 4, lines 18-19).

Then, the appellants argue that the video decoder in Moeller is optional. However, Moeller discloses that a video decoder is required in order to display the video



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(col. 3, lines 21-23). Furthermore, the appellants admit that a video decoder is required to playback compressed video (page 1, 23-27). Moreover, a person skilled in the art would know that a video decoder is inherently needed in order to provide the required information to display compressed video.

Finally, the claim limitation is met as follows, Moeller discloses that each picture or frame includes a header and that the MPEG standard includes sequence headers that identify the start of a video sequence; therefore, since the video decoder decodes the compressed video the video decoder provides this information in order to display the video (col. 3, lines 4-29).

### **Independent claim 21**

(B) Appellants argue on pages 7, 8, and 9 of the brief, that the Office Action fails to teach “receiving from the video server a second video stream configured to enable a seamless transition to the trick-mode operation”.

First, Moeller clearly teaches that the server outputs normal play streams and trick-play streams in order to enable a seamless transition to the trick-play operation (col. 3, lines 34-51 and col. 11, lines 1-50). Also Moeller discloses that the server reads the trick play stream from the storage device and outputs the data to the user, meaning that a trick play stream is output to the user in order to enable a seamless transition (col. 8, lines 42-55).

Then, the appellants go on to argue that “index lookup tables” are not “video streams”. The examiner agrees with this, but this has nothing to do with the fact that the

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trick play streams are output from the server to the users in order to enable a seamless transition between normal and trick play streams (col. 8, lines 42-55). The index lookup tables is just a way to ensure a seamless transition between the streams (col. 4, lines 45-51).

### **Independent claim 28**

(C) Appellants argue on pages 9, 10, 11, and 12 of the brief, that the Office Action fails to teach “parsing a stuffing transport packet (STP) to extract a time value corresponding to the current video picture”.

First, appellants should note that the specification at page 15, lines 2-3 reads as follows “**The STP is a video packet comprising a PES (packetized elementary stream) header, a user start code, and the time value**”.

Therefore, by appellants own definition, any MPEG-2 packet would be a STP, since it has a PES header, a start code and a time value.

Second, the specification at page 7, line 30 reads as follows “Demultiplexing system 215 **parses (i. e. reads and interprets)** compressed streams”.

Moeller reference includes presentation time stamp corresponding to the current picture or frame in a MPEG stream (Col. 3, lines 3-33 and Col. 9, line 31-37). Moeller teaches index look up tables, where time values are map to pictures in order to allow a seamless transition between the streams (figure 5, col. 9, line 51 to col. 10, line 43). Furthermore, Moeller discloses that timestamps, within the stream, are analyzed or read and interpret in order to create the index look up tables (col. 10, line 44 to col. 11, line

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39); meaning that a time value is extracted from the stream or STP and store in the index look up table in order to allow a seamless transition; therefore, the claim language is met.

### **Independent claim 35**

(D) Appellants argue on pages 12 and 13 that the Office Action fails to teach “parse a stuffing transport packet (STP) to extract a time value corresponding to the current video picture”

Please refer to I (C) above.

### **II ) Rejection of claim 42**

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(A) Appellants argue on pages 13, 14, and 15 that the Office Action fails to teach “parse a stuffing transport packet (STP) to extract a time value corresponding to the decoded video picture”.

First, appellants should note that the specification at page 15, lines 2-3 reads as follows “**The STP is a video packet comprising a PES (packetized elementary stream) header, a user start code, and the time value**”.

Therefore, by appellants own definition, any MPEG-2 packet would be a STP, since it has a PES header, a start code and a time value.

Second, the specification at page 7, line 30 reads as follows “Demultiplexing system 215 **parses (i. e. reads and interprets)** compressed streams”.

Demas teaches that an entry point is calculated, from the transport stream, based on some parameters. These parameters indicate a trick play mode, **a current location**, a number of possible entry points, etc (paragraph 69). Furthermore, Demas discloses that the collection of entry points forms the start code index table (SCIT) and that the SCIT contains some information about the stream (paragraph 76). The very first fields of information contained in the SCIT is the **start code value** ( paragraph 77). Since a time value is extracted from the transport stream in order to create the SCIT, the claim limitation is met.

### **III ) Rejection of claim 15**

Please refer to I (A) above.

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**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Oschta Montoya

/Oschta Montoya/

Patent Examiner

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